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Staff Education for Timely Sepsis Intervention at the Medical Center

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Walden University

College of Nursing

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has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

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Executive Summary: Staff Education Program
Staff Education for Timely Sepsis Intervention at the Medical Center

by

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Summary

This staff education program was developed to address confusion about “time zero,” which is crucial for timely sepsis intervention at the project site. The SEP-1 core measure, developed by CMS, outlines evidence-based interventions within 1-, 3-, and 6-hour bundles to improve outcomes. Furthermore, this project aimed to address the lack of staff knowledge regarding the timely sepsis intervention program in the areas of sepsis identification, treatment, and management. The project examined whether staff education on sepsis identification and management would improve health care staff knowledge about sepsis. A literature review of evidence was completed, and studies showed an improvement in mortality rates, sepsis identification, and management through educational strategies. To assess the project outcome, staff knowledge was assessed through a pre- and posttest format. The staff education was completed, targeting key aspects of sepsis recognition and timely management. Project data were analyzed using descriptive statistics from organizational data. Results demonstrated a significant improvement in posttest scores, indicating that education enhanced staff knowledge of sepsis. This outcome supports the value of targeted educational interventions in enhancing clinical awareness, staff response, and confidence in managing sepsis, as well as potential patient outcomes related to sepsis care. Recommendations for improving sepsis education and management focus on standardizing training programs across health care settings to ensure quality and accessibility. Staff education may also reduce disparities in sepsis outcomes, promoting diversity, equity, and inclusion by ensuring timely, evidence-based care for all patient populations, which may positively impact social change.

Background

Sepsis remains a leading cause of morbidity and mortality in hospitalized patients (Moazen et al., 2025). At the medical center, current SEP-1 compliance was at 44%, significantly below the national average of 60%. A significant gap persists due to the challenges in the early identification of at-risk patients. Health care providers frequently misinterpret initial sepsis signs such as altered mental status and rapid heart rate, considering them benign. This gap highlights an urgent need for targeted education and engagement. Because of this finding, health care facilities should establish clear sepsis alert criteria, alongside comprehensive treatment protocols and guidelines. To improve patient outcomes, it was determined that teaching on the topic was necessary, which led to the development of a staff education program.

Early detection and timely treatment are crucial, making nurses vital in recognizing initial warning signs, which can often be subtle. Because sepsis can affect any patient in a hospital setting, prompt intervention is critical for improving survival rates. Patient outcomes suffer due to discrepancies in sepsis management and nursing care delivery, often attributed to inadequate treatment guidelines, inconsistent education and training for health care personnel, and delays in initial detection. Effective management of sepsis hinges on the ability of nursing staff to swiftly identify early symptoms and initiate appropriate care. Given the condition's potential to develop in any hospitalized patient, the role of nurses in early recognition is indispensable. However, variations in clinical protocols, gaps in ongoing education, and delays in detecting sepsis contribute to inconsistent care delivery and poorer patient outcomes. Strengthening standardized treatment guidelines and enhancing training programs for health care

workers are essential steps toward reducing these disparities and improving survival chances.

Eleven articles were obtained by searching databases such as CINAHL and PubMed. Articles were evaluated using the Johns Hopkins evidence appraisal tool, which yielded grading Levels I through V indicating the strength of the evidence. The evidence collectively highlighted significant gaps in sepsis knowledge, skills, and attitudes among ward-based nurses, including inconsistent use of screening tools and limited confidence in protocols, issues that are worsened by workload and communication challenges. Structured and ongoing sepsis education programs implemented across various health care settings have been shown to improve staff awareness, adherence to protocols, and timely interventions, thereby leading to better patient outcomes. Kim (2025) emphasized the vital role of nurse-driven protocols in enabling early detection of sepsis, suggesting that prompt nursing intervention can reduce mortality rates by addressing sepsis quickly. In a related study, Evans et al. (2021) reported that a gap in nursing education related to sepsis care had been identified, highlighting the need for improved competencies for effective management.

The lack of standardized treatment protocols contributes to inconsistent care quality across different health care facilities. Incorporating sepsis-specific training into nursing curricula is recommended to boost providers' confidence and skills in recognizing and managing sepsis (Chua et al., 2023). Targeted education in high-risk units and specialized settings, combined with standardized workflows, supports early detection and management, reducing morbidity and mortality. A systematic review indicated that nurses may struggle to apply evidence-based guidelines consistently, often

due to insufficient training or awareness (Green et al., 2025). Furthermore, research pointed to gaps in nursing education related to sepsis, which affects competencies essential for effective clinical management.

Literature indicated that early intervention, especially within the first hour, is critical. Effective interdisciplinary communication is crucial because poor collaboration can delay vital interventions. Furthermore, patient and family involvement in care decisions is essential because educating families about sepsis can facilitate early intervention, significantly impacting clinical outcomes (Prescott & Ostermann, 2021). The deficiencies in sepsis management have notable quality and safety implications, including increased mortality from delayed treatment. Prolonged hospital stays and escalated health care costs are also associated with ineffective sepsis management. Quality measures from organizations such as The Joint Commission linked adherence to evidence-based protocols with improved quality scores, which affect hospital reputation and reimbursement.

Addressing challenges necessitates targeted efforts in education for nursing staff, improved interdisciplinary communication, adherence to standardized protocols, and active patient engagement. Continuous training and education are vital for creating a high-quality sepsis care environment supported by leadership and staff involvement. Implementing regular monitoring and feedback mechanisms can ensure sustained improvements in care delivery.

Innovative teaching methods and interactive, multidisciplinary curricula further boost learning effectiveness and clinical confidence. Targeted education in high-risk units and specialized settings, combined with standardized workflows, supports early detection

and management, reducing morbidity and mortality. According to Prescott and Ostermann (2021), comprehensive education on sepsis core measures, such as SEP-1, improves compliance with protocols, directly correlating with better patient outcomes and underscoring the pivotal role of education in optimizing sepsis care. The articles collectively emphasized the crucial role of sepsis education from clinical and patient-centered perspectives. “Time is survival” stresses the necessity for ongoing specialized sepsis education for neurosurgical critical care nurses, showing that targeted training enhances timely recognition and intervention for high-risk patients, thereby improving outcomes (Parsons Leigh et al., 2024).

Additionally, qualitative research into the experiences of sepsis survivors and their families revealed significant physical and emotional effects and highlighted gaps in public awareness. These insights guide the creation of public education campaigns focused on early recognition and prompt action in sepsis cases. Together, these studies advocate for comprehensive sepsis education initiatives that enhance health care providers’ clinical skills and raise public awareness, aiming to improve early detection, timely treatment, and holistic support for patients and their families affected by sepsis.

Staff Education Project Development

The sepsis education program was created following an extensive review of institutional data and patient charts, incorporating pre- and posttest assessments (see Appendix A) to evaluate knowledge acquisition. The analysis included descriptive statistics to assess existing practices and outcomes, highlighting key performance metrics including compliance with timely antibiotic administration and fluid resuscitation.

Findings were benchmarked against national standards to highlight gaps and opportunities for improvement in sepsis management. A PowerPoint presentation (see Appendix B) was developed from the findings of the review to include education and learning objectives based on evidence-based practices from the literature review. A fact sheet was also developed (see Appendix C) for the project site as a quick reference to use following the staff education program. The staff education and fact sheet targeted key aspects of sepsis recognition and timely management. A multidisciplinary team of quality improvement professionals assisted with the development of the program, ensuring that the educational content was practical, evidence based, and tailored to address identified challenges. The project followed established quality improvement methodologies to enable continuous refinement of sepsis care processes within the institution.

The sepsis education program was delivered to seven health care staff members from the emergency department, accompanied by pre- and posteducational assessments to evaluate knowledge acquisition and competency. The staff were informed about the staff education program through an email with a flyer attached (see Appendix D). The educational program took place in the boardroom and was delivered during a lunch and learn session. Each participant was given the pretest upon arrival in the boardroom along with a printed PowerPoint to follow along during the presentation. Immediately following the session, participants were given an opportunity for questions and answers, and thereafter the posttest and program evaluation (see Appendix E) were delivered. The total time from start to finish was 45 minutes. The program was aligned with the SEP-1 Core Measure and the Surviving Sepsis Campaign guidelines, which are nationally recognized standards for sepsis care. This alignment ensured compliance with regulatory

requirements while promoting best practices in early recognition, timely intervention, and comprehensive treatment, thereby aiming to improve patient outcomes and reduce sepsis-related complications.

Results

Analysis of the pre- and posttest scores highlighted the success of the educational program. The results showed a pretest percentage rate of 72.8%, and following the staff education, the posttest results were 94.3%. Initial pretest results revealed that four of the participants did not pass, underscoring existing gaps in understanding that could impact timely recognition and effective management of sepsis in clinical practice. This significant positive shift in test scores demonstrated the effectiveness of the educational intervention in addressing the identified deficiencies and enhancing the overall preparedness of the staff to deliver evidence-based sepsis care. The pre- and posttest scores are presented in Table 1.

Table 1

Pre- and Posttest Scores

| Participant | Pretest score percentage | Pretest result | Final test score percentage | Final test result |
|-------------|--------------------------|----------------|-----------------------------|-------------------|
| P1 | 60% | Fail | 90% | Pass |
| P2 | 70% | Fail | 100% | Pass |
| P3 | 80% | Pass | 100% | Pass |
| P4 | 80% | Pass | 100% | Pass |
| P5 | 70% | Fail | 90% | Pass |
| P6 | 90% | Pass | 100% | Pass |
| P7 | 60% | Fail | 80% | Pass |

Additionally, the success of the program was identified in the posttest score of 94.3%, which highlights the value of targeted, focused training in elevating clinical

competence and staff confidence. In addition to the pre- and posttest assessments, the participants received a fact sheet designed to serve as a quick reference guide. The fact sheet was designed to facilitate standardized communication, helping to ensure that all stakeholders would be informed about sepsis signs, symptoms, and urgent care steps in a concise, accessible format. The education supports ongoing knowledge retention and provides a practical tool for patient and family education, thereby extending the impact of the training beyond the immediate clinical team. The program was evaluated using a Likert scale ranging from *strongly disagree* to *strongly agree*. All participants chose *strongly agree* to indicate that they were more knowledgeable about sepsis following the education.

Impact to the Organization

The staff education positively impacted the organization due to posttest analysis that revealed passing scores and that the education was successful. The increase in staff knowledge may significantly enhance the organizational outcomes by improving early detection and timely intervention, which may lead to reduced patient morbidity and mortality, shorter hospital stays, and decreased health care costs. The sepsis fact sheet can serve as a valuable tool to use as a quick reference for ongoing learning and can be updated with any new protocols that impact patient care related to sepsis identification, treatment, and management.

Limitations

Despite these positive results, limitations inherent in the sepsis education and management educational program must be acknowledged. The small number of participants serves as a limitation because the sample did not adequately represent the

broader population and can limit the generalizability of the findings. This limitation increases the risk of sampling bias and reduces the statistical power, making it harder to detect significant effects or draw reliable conclusions.

Other limitations include variability in training quality, resource availability, and accessibility across different health care settings, which can lead to inconsistencies in knowledge and clinical practice. Moreover, the demanding nature of health care work, characterized by time constraints and heavy workloads, may impede full engagement in educational activities and strict adherence to sepsis protocols. Overcoming these barriers requires institutional commitment to continuous professional development, integration of education into regular workflows, and ensuring resources are readily accessible to frontline providers.

Project Importance Beyond the Local Site

The importance of sepsis education extends well beyond the local institution. Standardized, evidence-based training is critical for promoting early recognition and timely intervention, which are key determinants of improved patient outcomes. Widespread education facilitates continuity of care across various health care facilities, ensuring patients receive consistent, high-quality management throughout their health care journey. Additionally, widespread education supports efficient resource utilization by reducing unnecessary complications and hospital stays, thereby benefiting health care systems economically and operationally. Adherence to national guidelines and regulatory standards, such as those outlined in the SEP-1 Core Measure and the Surviving Sepsis Campaign, helps institutions meet accreditation requirements and demonstrate commitment to patient safety and quality care.

From a broader public health perspective, expanding sepsis education contributes to reducing morbidity and mortality associated with this life-threatening condition. By equipping health care professionals with the knowledge and skills to act decisively, education programs improve early detection rates and accelerate treatment delivery. This, in turn, lessens the incidence of severe complications, prolonged hospitalizations, and deaths attributable to sepsis. The ripple effect of such initiatives supports healthier communities, alleviates strain on health care infrastructure, and aligns with global efforts to combat sepsis as a major cause of preventable mortality (Heslin et al., 2024).

Conclusions

In conclusion, the educational program demonstrated measurable success in improving staff competency and preparedness for sepsis care. Continued investment in high-quality, accessible sepsis education is essential to maintain and build on these gains. Education fosters a culture of excellence, enhances patient safety, and advances the quality of care delivered across health care systems.

Further Recommendations

Recommendations for improving sepsis education and management focus on standardizing training programs across health care settings to ensure quality and accessibility. Continuous education, including refresher sessions, is crucial for maintaining skills and knowledge. Standardizing training programs on sepsis education and management across health care settings to ensure consistent quality and accessibility may be beneficial. Incorporating flexible, modular learning formats such as online courses can help overcome time constraints and workload challenges. Ongoing education

with regular refresher sessions and simulation exercises is essential to maintain skills and knowledge.

Implications for Nursing Practice

Effective sepsis education can empower nurses to recognize and respond promptly to sepsis, thereby improving patient care quality and safety. Education promotes professional confidence and accountability in nursing roles. Addressing care disparities in sepsis outcomes aligns with the goals of diversity, equity, and inclusion by ensuring all patient populations receive timely, evidence-based care regardless of background. Addressing these care disparities may also contribute to reducing health inequities and fostering trust within diverse communities, which may positively impact social change.

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Appendix A: Pretest/Posttest

Sepsis Identification and Management

Thank you for participating in this staff education program. This pretest/posttest is used to assess participant knowledge before and after the educational program. For confidentiality, please do not include your name, but insert the last 5 digits of your telephone number as the unique identifier to ensure that pretests are aligned with posttests for comparative analysis.

Unique ID: Ex. 63819_____ Date: _____ Circle the best answer for each question.

1. **Sepsis is best defined as:**
 - A. Any infection with a fever
 - B. A life-threatening response to infection that causes organ dysfunction
 - C. An infection that needs antibiotics
 - D. A bloodstream infection only
2. **Which of the following could be an early sign of sepsis?**
 - A. Shivering or fever
 - B. Confusion or altered mental status
 - C. Low blood pressure or fast heart rate
 - D. All of the above
3. **Which is part of the sepsis bundle?**
 - A. Start broad-spectrum antibiotics quickly
 - B. Give 30 mL/kg IV fluids for low blood pressure or high lactate
 - C. Draw blood cultures and measure lactate
 - D. All of the above

4. **What should the nurse do first if sepsis is suspected?**
 - A. Wait for the next set of vital signs
 - B. Notify the provider and activate the sepsis protocol
 - C. Start documenting but take no action
 - D. Give fluids without notifying anyone

5. **Why is it important to recognize sepsis early?**
 - A. It helps reduce patient deaths and complications
 - B. It prevents the need for blood cultures
 - C. It avoids giving antibiotics
 - D. It has no impact on outcomes

6. **What are three common signs and symptoms of sepsis?**
 - A. Fever
 - B. Altered mental status
 - C. Hypotension
 - D. All of the above

7. **Which laboratory tests are essential in the initial assessment of a septic patient?**
 - A. Complete blood count (CBC) and blood cultures
 - B. Liver function tests only
 - C. Urinalysis only
 - D. Electrolyte panel only

8. **Which patient populations are at higher risk for developing sepsis?**
 - A. Healthy young adults
 - B. Patients with weakened immune systems, the elderly, and those with chronic illnesses
 - C. Athletes
 - D. Patients with no prior medical history

9. What role do antibiotics play in sepsis management?

- A. They are optional and used only if fever persists
- B. They are the primary treatment to control infection and should be started promptly
- C. They are used only after other treatments fail
- D. They are mainly for pain relief

10. What is the first step in managing a patient suspected of having sepsis?

- A. Immediate administration of intravenous fluids and antibiotics
- B. Wait and observe symptoms for a few hours
- C. Perform surgery immediately
- D. Prescribe oral medications and discharge

Appendix B: Staff Education PowerPoint



Staff Education Program on Sepsis Identification and Management

LaTonya S. Oliver, DNP Student

Nursing 8513

Dr. Barbara Barrett

Appendix C: Sepsis Fact Sheet

What is Sepsis?

A life-threatening condition caused by the body's extreme response to infection, leading to tissue damage, organ failure, and potentially death.

****Early Signs & Symptoms****

Fever or low body temperature
 Rapid heartbeat and breathing
 Confusion or disorientation
 Weakness, chills, or shivering
 Decreased urine output
 Clammy or pale skin

Sepsis Management Bundles

➤ **1-Hour Bundle (Immediate Actions)**

Measure serum lactate level.
 Obtain blood cultures before antibiotic administration.
 Administer broad-spectrum intravenous antibiotics.
 Begin rapid administration of IV fluids (30 mL/kg of crystalloids) if hypotensive or lactate ≥ 4 mmol/L.
 Apply vasopressors if hypotension persists after fluid resuscitation to maintain mean arterial pressure (MAP) ≥ 65 mm Hg.

➤ **3-Hour Bundle (Within 3 Hours of Recognition)**

Repeat lactate measurement if the initial lactate is elevated (>2 mmol/L).
 Continue fluid resuscitation as needed based on clinical assessment and lactate levels.
 Monitor vital signs and urine output closely.

➤ **6-Hour Bundle (Within 6 Hours of Recognition)**

Reassess hemodynamic status, including repeat lactate if elevated initially.
 Optimize oxygen delivery and consider advanced monitoring if indicated.
 Evaluate the need for ICU admission or advanced supportive care.
Why Early Detection Matters
 Early recognition and treatment significantly reduce mortality, prevent organ failure, and improve recovery.

Nursing Role

Monitor vital signs frequently.
 Recognize early signs and report immediately.
 Facilitate timely blood draws and medication administration.
 Support patient and family education.

If sepsis is suspected, act fast—early intervention saves lives!

Appendix D: Email Notification/Flyer

Email Notification

Attention all Staff!!

We are pleased to announce an upcoming “Lunch and Learn” session on a Sepsis Education Program, available to all staff. This event will be held on Thursday, January 8th, at 11:30 a.m. in the boardroom. While attendance is voluntary, your participation would be highly valued. Come and join us as we eat and learn.



Appendix E: Staff Evaluation Form

Sepsis Education Program Evaluation

Thank you for participating in the staff education program. Your feedback is greatly appreciated. For confidentiality, **do not include your name** on this document. Mark the box that best represents your level of agreement. Thank you for your participation.

Date _____

| Question | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|-------------------|----------|---------|-------|----------------|
| 1. This staff educational program met the identified learning objectives. | | | | | |
| 2. The speaker was knowledgeable about the program content. | | | | | |
| 3. The educational program increased my knowledge about sepsis and the management of sepsis | | | | | |
| 4. The knowledge gained from this program I can apply to my daily practice. | | | | | |

5. What was missing or could be improved in this educational program?